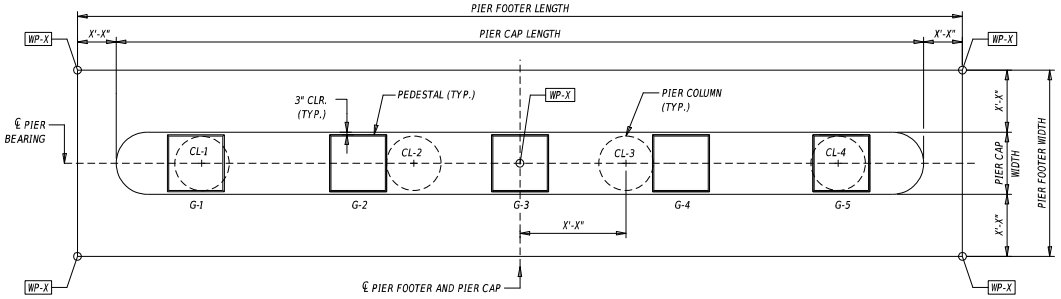
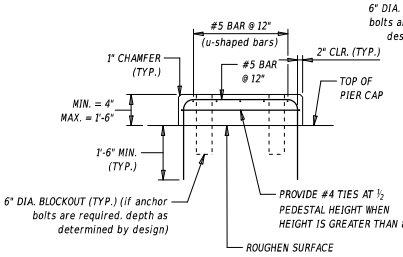


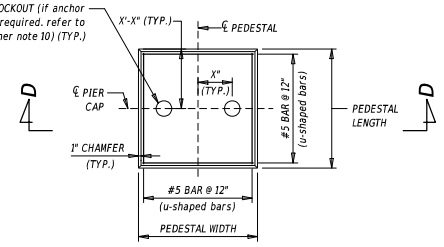
PIER FOOTER AND PIER CAP PLAN

NOTE: C-C GIRDER, SKEW, AND CONSTRUCTION BASELINE UNDER PLAN VIEW NOT SHOWN FOR CLARITY.



SECTION (D-D)

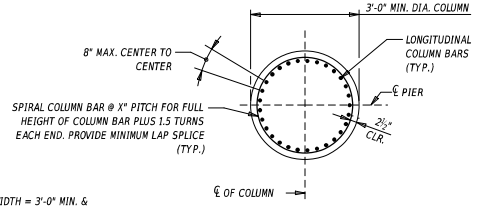
NOTE: POTENTIAL ANCHOR BOLTS NOT SHOWN FOR CLARITY.



PLAN (B-B)

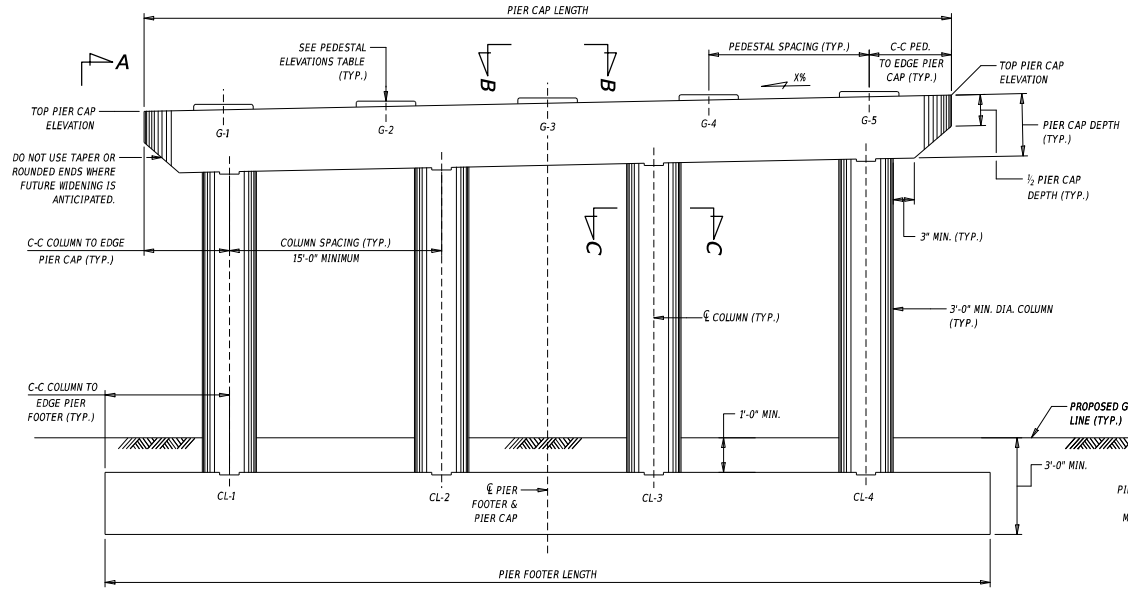
NOTE: C-C GIRDER, SKEW, AND POTENTIAL ANCHOR BOLTS UNDER PLAN VIEW NOT SHOWN FOR CLARITY.

PEDESTAL REINFORCEMENT



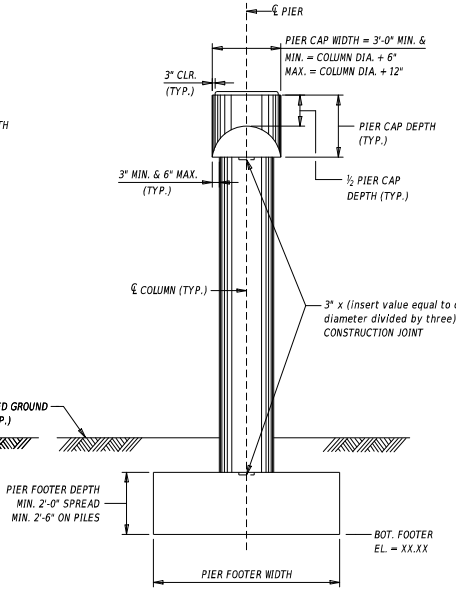
TYPICAL COLUMN SECTION (SECTION C-C)

NOTE: EXAMPLE SHOWN USING SPIRAL REINFORCEMENT. USE OF TIES AS AN ALTERNATIVE IS PERMITTED.



PIER ELEVATION

NOTE: CONSTRUCTION BASELINE AND DEEP FOUNDATION ELEMENTS UNDER ELEVATION AND END VIEWS NOT SHOWN FOR CLARITY. ALSO EXAMPLE UTILIZES CONTINUOUS FOOTING. ISOLATED FOOTINGS MAY BE USED IF DEEMED TO BE ECONOMICAL.



END VIEW (A-A)

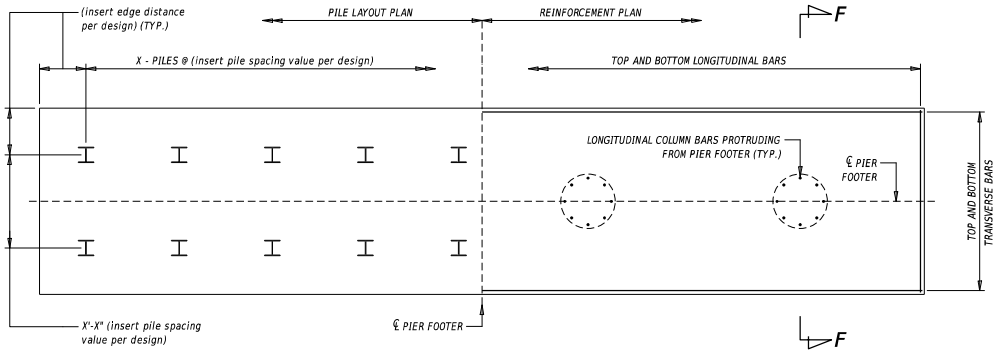
NOTE: POTENTIAL PIER PROTECTION NOT SHOWN FOR CLARITY. WHEN REQUIRED, DESIGN PIER PROTECTION IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND INCLUDE SUCH DETAILS ON PLANS.

PEDESTAL ELEVATIONS	
GIRDER	ELEVATION
G-1	-------
G-2	-------
G-3	-------
G-4	-------
G-5	-------

PIER COLUMN COORDINATES				
POINT	STATION	OFFSET	NORTHING	EASTING
CL-1	-------	-------	-------	-------
CL-2	-------	-------	-------	-------
CL-3	-------	-------	-------	-------
CL-4	-------	-------	-------	-------

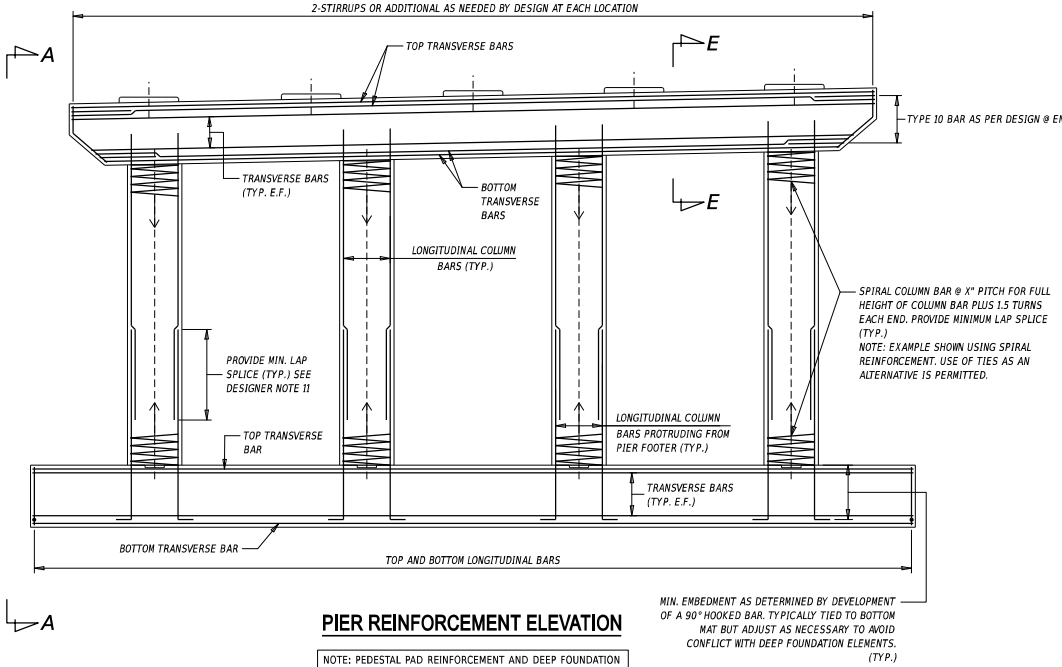
NOTE: COORDINATES AT CENTER OF COLUMN.

PIER WORKING POINTS				
POINT	STATION	OFFSET	NORTHING	EASTING
WP-X	-------	-------	-------	-------
WP-X	-------	-------	-------	-------
WP-X	-------	-------	-------	-------
WP-X	-------	-------	-------	-------
WP-X	-------	-------	-------	-------



PIER FOOTER REINFORCEMENT AND PILE LAYOUT PLAN

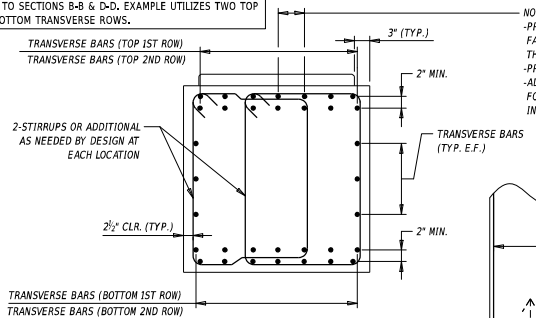
NOTE: PROVIDE WORKING POINTS FOR EACH PILE AND DENOTE ALL BATTERED AND TEST PILES. EXAMPLE SHOWN USING TWO ROWS OF PILES.



PIER REINFORCEMENT ELEVATION

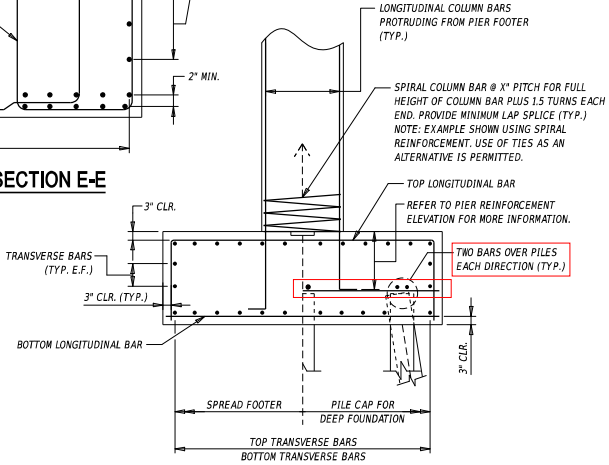
NOTE: PEDESTAL PAD REINFORCEMENT AND DEEP FOUNDATION ELEMENTS AT ELEVATION VIEW NOT SHOWN FOR CLARITY.

NOTE: PEDESTAL REINFORCEMENT NOT SHOWN FOR CLARITY. REFER TO SECTIONS B-B & D-D. EXAMPLE UTILIZES TWO TOP AND BOTTOM TRANSVERSE ROWS.



NOTE:
-PROVIDE AT LEAST ONE SOURCE OF MIN. 9" CLR. TO FACILITATE CONCRETE PLACEMENT. FOR CAPS GREATER THAN 5'-0" WIDE, PROVIDE TWO SOURCES OF 9" CLR.
-PROVIDE 6" MIN. AT ALL OTHER SPACES.
-ADJUST REINFORCEMENT SPACING ACCORDINGLY TO ALLOW FOR PROPER PLACEMENT OF DOWELS OR ANCHOR BOLTS, INCLUDING SLEEVES.

SECTION E-E



TYPICAL REINFORCEMENT SECTION (F-F)

DESIGNER NOTES

1. REFER TO SECTIONS 103.6.3, 107.5, AND 203 FOR MORE INFORMATION ON PIER DESIGN.
2. THE EXAMPLE PIER USED FOR THIS DETAIL IS A 'CAP-AND-COLUMN' TYPE PIER WITH 4 COLUMNS ON A CONSTANT SMALL SUPERELEVATION GRADE. ALSO THE EXAMPLE ASSUMES 5 GIRDERS ARE PRESENT.
3. THE 'PEDESTAL ELEVATIONS' TABLE MUST BE SHOWN ON THE PLANS FOR EACH PEDESTAL LOCATION.
4. THE 'PIER COLUMN COORDINATES' TABLE MUST BE SHOWN ON THE PLANS FOR EACH COLUMN LOCATION.
5. THE 'PIER WORKING POINTS' TABLE MUST BE SHOWN ON THE PLANS. INCLUDE EACH CORNERS AND CENTER OF THE PIER FOOTER AS A MINIMUM. ADDITIONAL WORKING POINTS MAY BE NEEDED AT STEPS OR CONSTRUCTION JOINT LOCATIONS FOR PHASED CONSTRUCTION.
6. UNDER 'END VIEW (A-A)', EXAMPLE PIER PROTECTION NOT SHOWN FOR CLARITY. OPTIONS FOR PIER PROTECTION MAY INCLUDE: STEEL BEAM GUARDRAIL, F-SHAPED BARRIERS, OR DESIGNING THE PIER TO WITHSTAND VEHICULAR COLLISION. REFER TO SECTION 103.3.4 FOR HORIZONTAL CLEARANCE AND PIER PROTECTION. REFER TO A3.6.5 AND A3.14 FOR MORE INFORMATION ON VEHICULAR AND VESSEL COLLISION FORCES.
7. UNDER 'TYPICAL REINFORCEMENT SECTION (F-F)' AND 'PIER FOOTER REINFORCEMENT AND PILE LAYOUT PLAN' THE EXAMPLE DEEP FOUNDATION ELEMENT USED ARE H-PILES. REFER TO DETAIL NO. 305.01 - 305.04 FOR MORE INFORMATION ON DEEP FOUNDATION ELEMENTS THAT ARE TYPICALLY USED ON DELDOT PROJECTS.
8. UNDER 'PIER REINFORCEMENT ELEVATION' AND 'SECTION E-E', THE EXAMPLE USED UTILIZES TWO TRANSVERSE REINFORCEMENT ROWS AT TOP AND BOTTOM OF PIER CAP.
9. FOR BRIDGES OVER RAILROAD, REFER TO SECTIONS 103.3.4.3, 103.3.5.3, 103.10, AND AC3.6.5.1 FOR MORE INFORMATION ON RAILROAD CLEARANCE ENVELOPES AND HORIZONTAL CLEARANCE LIMITS WHERE THE INCORPORATION OF RAILROAD COLLISION FORCES INTO THE DESIGN OF PIERS IS REQUIRED, WHEN CRASH PROTECTION IS NOT PROVIDED.
10. FOR MORE INFORMATION ON ALLOWABLE ALTERNATIVE BLOCKOUT SIZES, REFER TO SECTIONS 106.10.9.2, 107.4.1.5.3, AND 107.5.3 AND ALSO DETAIL NO. 345.01 - ELASTOMERIC BEARING DETAILS. NOTE THAT POTENTIAL ANCHOR RODS FOR MASONRY PLATES NOT SHOWN IN THIS DETAIL.
11. REGARDING SPLICING LONGITUDINAL BARS:
    - -ONLY SPLICE BARS IF THE BAR LENGTH EXCEEDS SHIPPING LENGTH REQUIREMENTS OR THE LENGTH IS SUCH THAT ONE PIECE WILL CAUSE CONSTRUCTIBILITY ISSUES BETWEEN THE FOOTER AND COLUMNS.
    - -STAGGER SPLICES SUCH THAT NO MORE THAN 50% OF THE REINFORCING BARS ARE SPACED AT ONE LOCATION.
    - -USE A 6" MAXIMUM TIE SPACING ALONG THE LENGTH OF THE SPLICE.
    - -IF THE ABOVE REQUIREMENTS CANNOT BE MET, FULL MECHANICAL CONNECTION SPLICES CAN BE USED PROVIDED NOT MORE THAN ALTERNATE REINFORCING BARS IN EACH LAYER ARE SPLICED AT A SECTION, AND THE DISTANCE BETWEEN SPLICES OF ADJACENT REINFORCING BARS IS GREATER THAN 24" MEASURED ALONG THE LONGITUDINAL AXIS OF THE COLUMN.